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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,413	04/15/2005	Rolf Neumann	PHDE020229US	8122

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
595 MINER ROAD
CLEVELAND, OH 44143

EXAMINER	
SAIDI, AZADEH	
ART UNIT	PAPER NUMBER
3735	
MAIL DATE	DELIVERY MODE
01/30/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/531,413	NEUMANN ET AL.	
	Examiner	Art Unit	
	Anita Saidi	3735	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 December 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10,12-15 and 22-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10,12-15 and 22-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 April 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is responsive to Applicant's arguments after final rejection, filed on December 10, 2007. Currently claims 1-10, 12-15 and 22-26 are pending.

Response to Arguments

2. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn. While Applicant's arguments, see page 2, with respect to claims 1 and 22 have been fully considered and are persuasive, upon further consideration, new grounds of rejection are made in view of newly found prior art.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-4, 7, 13-15, 22 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,109,643 to Bond et al (Hereinafter "Bond") in view of US 5,438,983 to Falcone (Hereinafter "Falcone").

In reference to claims 1, 7 and 22:

Bond teaches:

> A perfusion meter and a method of calculating perfusion index, which comprises the steps of determining a perfusion index data for presentation (510 of Bond), using an algorithm from measured values produced by a non-invasive photometric measuring process for determining the arterial oxygen saturation of the blood (Col. 3, line 65-Col. 5, line 40 and Col. 5, line 60-Col. 6, line 17 of Bond). The device comprises a pulsoximeter (Fig. 6c of Bond) for determining arterial O_2 saturation and for providing perfusion data (Abstract of Bond); and a display unit (510 of Bond) configured to display the perfusion value. A perfusion value is determined and displayed as a bar graph (Col. 6, line 65- Col. 7, line 7 of Bond). The recent perfusion index is compared with the previous value and the result will be displayed on the screen (Col. 7, lines 1-20 of Bond).

However, Bond fails to teach that:

> A first perfusion index is defined as a reference value and subsequent perfusion indices are determined as relative deviations with respect to the reference value; and the reference value and the variation of the perfusion value are displayed on the display unit.

Falcone teaches:

> A method and apparatus for detecting an alarm in a patient monitoring system. The values representative of physiological parameter of a patient are measured (Abstract of Falcone) using a sensor, such as pulse oximeter (16 and Col. 2, lines 6-10 of Falcone). A trend vector which is the function of changes in the parameter values and time will be calculated (Col. 2, lines 15-20 of Falcone). The processor includes means for displaying the trend vector on the display unit (24 of Falcone) as an arrow having direction that indicates a polarity of change in the parameter values. The arrow has a length that indicates the magnitude of change in the parameter (Fig. 6 and Col. 2, lines 47-60 of Falcone). The display can contain information such as waveforms or current parameter values (Col. 6, lines 1-10 of Falcone). The relative deviation of the perfusion is presented in numerical form and the reference value is displayed in numerical form (Col. 3, lines 50-60 of Falcone).

Therefore it would have been obvious to one having ordinary skill in the art at the time the applicant's invention was made to have displayed a trend of the change in the values of the physiological parameters collected, similar to the teachings of Falcone, with the perfusion meter of Bond, in order to monitor the trend of change in the physiological parameter, so that the physician or health provider could look at the monitor and know

not just what the current parameter values are but what the parameter values have been doing over a specified time (Col. 6, lines 22-28 of Falcone).

In reference to claims 2 and 3:

The reference value can be selected automatically at the beginning of the photometric measuring process or it is selectable from perfusion index values during the photometric measuring process (any point on the trend vector of Falcone displayed on the display unit can be considered a reference value).

In reference to claim 4:

The reference value is stored on a memory chip (memory system 22 of Falcone).

In reference to claims 13-15:

An upper alarm limit and a lower alarm limit are provided.(52,54 and 40 and 44 of Falcone), wherein the alarm limit is adjustable (Col. 4, lines 44-55 of Falcone). An alarm signal is triggered when the alarm limit is exceeded (Col. 5, lines 55-58 of Falcon).

In reference to claim 26:

The display unit is further configured to display arterial O_2 saturation determined by the pulsoximeter (Fig. 6 of Falcone).

5. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bond in view of Falcone as applied to claim 1 above, and further in view of US 6,658,276 to Kianl et la (Hereinafter "Kianl").

In reference to claims 5 and 6:

Bond as modified by Falcone teaches all of the claim limitations; see the rejection of claim 1 above.

However, Bond and Falcone fail to teach that:

> The reference value as well as the subsequent perfusion indices are scaled by a factor, which is adjustable.

Kianl teaches:

> A pulse oximeter user interface which comprises a display and a plurality of views. Each of the views are adapted to present data responsive to a physiological signal. One of the views is a pleth view that presents a pulse waveform. Another one of the views is a trend view that presents a trend graph (Abstract of Kianl). Kianl also discloses a method for representing variation in oxygen saturation and perfusion index, heart rate and other physiological information (Fig. 4 of Kianl). Kianl teaches the steps of deriving a pulse waveform responsive to a physiological signal, calculating a data

trend responsive to the physiological signal and providing the pulse waveform in a first display view (Col. 2, lines 32-41 of Kianl). The reference value as well as the subsequent perfusion indices are scaled by a factor. (Col. 6, lines 10-15 of Kianl). The waveform is scaled based on the signal strength and therefore this factor is not fixed and is adjusted based on the strength of the signal.

It would have been obvious to one having ordinary skill in the art at the time the applicant's invention was made to have used a scaling factor similar to the one taught by Kianl in the perfusion meter of Bond as modified by Falcone, in order to adjust the screen to the change of the new parameter values, so that the new values can be better presented in the full screen.

6. Claims 8-10 and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bond in view of Falcone as applied to claims 1 and 22 above, and further in view of US 6,322,516 to Masuda (Hereinafter "Masuda").

In reference to claims 8-10 and 23-25:

Bond as modified by Falcone teaches all of the claim limitations; see the rejection of claims 1 and 22 above.

However, Bond and Falcone fail to teach that:

> First and second analog graphic elements, such as bar graphs are used for the presentation of the reference value and the relative deviations, respectively. The relative variations of the perfusion are represented by a bar element and the reference value is represented by positioning of a reference graphic element respective to the bar element.

Masuda teaches:

> An apparatus for monitoring change in value of physiological parameters, such as blood-pressure and pulse oximetery values. The device obtains information using different monitoring apparatuses. The obtained information changes in relation to a change of the condition of the living subject (Col. 3, lines 32-43 of Masuda). A display (32 of Masuda) device is used which displays a first graphical representation of the obtained information, and a second graphical representation of the reference value, so that the first graphical representation can be compared to the previous information (Abstract of Masuda). The collected data is displayed as a bar graph, presenting a reference value, the variation of the current value relative to the reference value, and an arrow used to represent the reference value (this is shown as two superimposed bar elements in Fig. 8 of Masuda).

Therefore it would have been obvious to one having ordinary skill in the art

at the time the applicant's invention was made to have used an analogue graphical element such as two superimposed bar elements similar to that taught by the blood pressure monitoring system of Masuda, in the perfusion meter of Bond as modified by Falcone in order for the medical staff to recognize, from the graph, to what degree each subsequent piece of information has deviated from the initial piece of information at the time of the last measurement (Col. 4, lines 20-26 and Col. 17, line 65-Col. 18, line 20 of Masuda).

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bond in view of Falcone as applied to claim 1 above, and further in view of US 5,912,656 to Tham et al (Hereinafter "Tham").

In reference to claim 12:

Bond as modified by Falcone teaches all of the claim limitations; see the rejection of claim 1 above.

However, Bond and Falcone fail to teach that:

The display is formed as a multidimensional type in conjunction with other physiological variables.

Tham teaches:

A device for producing a display from monitored data functions to read, store, encode, and integrate monitored data of at least one

data type from at least one monitoring device so that the related or unrelated datum is comprehensible at a glance by a user. The system produces a single superimposed and/or multidimensional image capable of portraying a present and historical data combination reflecting the monitored data's relative value at some point in time (Abstract and Fig. 4 of Tham).

Therefore it would have been obvious to one having ordinary skill in the art at the time the applicant's invention was made to have used a known technique, such as displaying multiple types of data or a multidimensional image display as a means for displaying the collected data, for better comparison between the current record with the previously collected data, similar to the one taught by the display device of Tham, in the perfusion meter of Bond as modified by Falcone in order to improve the data presentation and provide a full report of the patient's physiological activity.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 6,196,974 to Miwa discloses a blood pressure monitoring apparatus. US 6,415,166 to Van Hoy et al discloses a photoplethysmographic device. US 2006/0149154 to Stephens et al discloses a method and apparatus for measuring tissue perfusion. US 4,848,584 to Uemura discloses a method and apparatus for blood pressure measurement.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anita Saidi whose telephone number is (571)270-3001. The examiner can normally be reached on Monday-Friday 9:30 am - 6:00 pm Est..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor, II can be reached on 571-272-4730. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Charles A. Marmor, II/
Supervisory Patent Examiner
Art Unit 3735

/A. S./
Examiner, Art Unit 3735
1/30/2008